

ABSTRACT OF THE DISCLOSURE

A nitride-based semiconductor element enabling formation of a nitride-based semiconductor layer having low dislocation density, consisting of a material different from that of an underlayer, on the underlayer with a small thickness is obtained. This nitride-based semiconductor element comprises a plurality of mask layers formed at a prescribed interval to be in contact with the upper surface of the underlayer while partially exposing the underlayer and the nitride-based semiconductor layer, formed on the upper surface of the underlayer and the mask layers, consisting of the material different from that of the underlayer. The minimum distance between adjacent mask layers is smaller than the width of an exposed part of the underlayer located between the adjacent mask layers. Thus, when the nitride-based semiconductor layer is grown on the underlayer through the mask layers serving as masks, raw material hardly reaches a portion of the exposed part of the underlayer formed with any mask layer thereon, whereby a small facet is formed on this portion. This facet is laterally grown more quickly than a large facet, whereby lateral growth is facilitated with a thickness smaller than a general one from an initial stage of growth and the nitride-based semiconductor layer having low dislocation density, consisting of the material different from that of

the underlayer, can be grown on the underlayer with a small thickness to form hetero structure.

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